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Technology Transfer and the National Agricultural Library

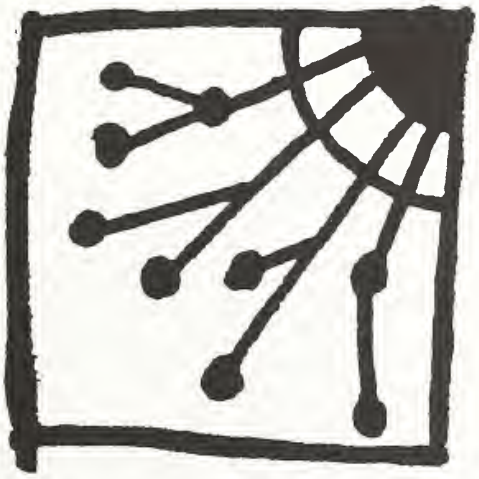
by Kathleen C. Hayes, Coordinator
Technology Transfer Information Center

The twentieth century witnessed the blossoming of American enterprise. The foundations of that evolution were the unique advantages of abundant resources, a vast and cheap labor supply generated by agricultural efficiencies and waves of immigrants, and a national infrastructure of science-based research at Federal laboratories and State universities.

However as the 21st century approaches, the United States is in a far different economic situation. The forces driving the economy are: an expanded global competition; new patterns of capital formation; growing entrepreneurship; rapid technological advances fueling new enterprises; and changing demographics.

This new economy is not limited solely to the United States. It is shaking the economic and political foundations of Western Europe, Eastern Europe, and the Soviet Union. It is also transforming the economies of North and South America, and the nations and city-states of the Pacific Rim.

Many agree that the successful economy of the future will be closely indexed to technology. Not only the creation of technology, but perhaps even more importantly, the ability to convert (apply) that technology rapidly into a product that meets the needs of society.



Logo design by Victor Newman
New logo of the Library's Technology Transfer Information Center.

Technology Transfer Legislation

Technology transfer legislation promotes the rapid conversion of federally-developed inventions into commercial products by "getting the results of research into the hands of those individuals and organizations who can put it into practical use."

The U.S. invests heavily in technology, which is defined as the "utilization of both scientific and technical resources." For instance in

Also in this issue...

...and more

USDA photo (0986X1019-6)

Felix Otey, a chemist with the Agricultural Research Service (ARS) in Peoria, IL, holds a sheet of biodegradable plastic film which he helped to develop. The commercially produced film is made from corn starch and petroleum-based polymers.

1989, the Federal government: (1) allocated approximately $20 billion dollars for research and development programs; (2) contributed to the support of about 600 laboratories nationwide; and (3) employed about 1/6 of all the scientists and engineers in the United States.

The technology transfer legislation is aimed at converting this heavy expenditure into a tremendous national asset and improving the Nation's competitive edge in the world marketplace.

The Technology Transfer Act of 1986 (P.L. 99502) amends the original legislation, the Stevenson Wydler Act of 1980 (P.L. 96-480) and authorizes Federal-Industrial Cooperative Research and Development Agreements (CRDAs) which permit:

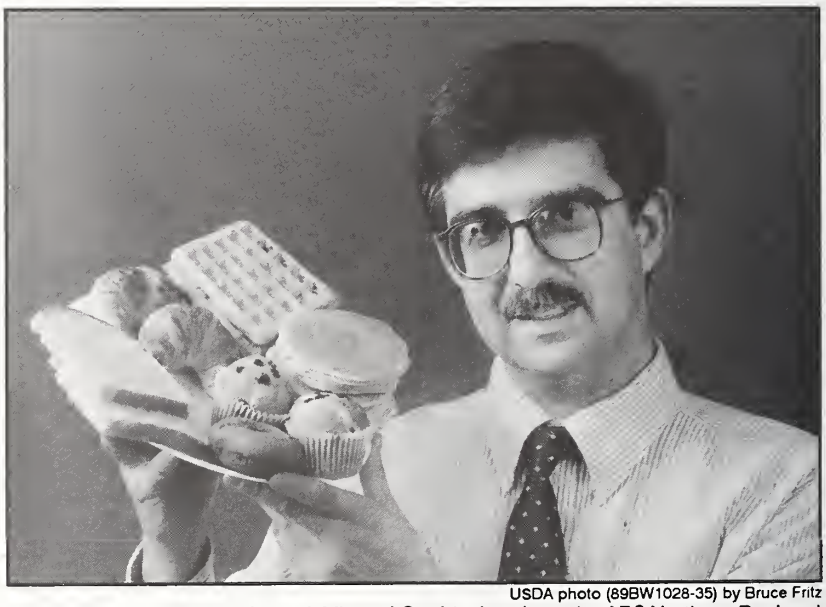
- Federal laboratories and staff to work with individual firms, nonprofit organizations, and others. The emphasis is on small businesses.
- Federal research laboratories to "accept, retain, and use funds, personnel, services, and property from collaborating parties and also to provide personnel, services, and property to collaborating parties"
- Up front patent licensing and royalty agreements, and
- 15 percent of the royalties collected under such agreement (or any other patent license) to be paid to the Federal scientists named on the patents as inventors (up to $100,000 per inventor per year).

The remainder of the royalties can be used:

- To pay the direct expenses of administering the patent licensing program
- To reward other scientists and support personnel who contributed to the research question, and
- For other activities that enhance related ongoing research. The maximum of such royalties that can be retained by a Federal research entity is 5 percent of its total R&D budget.

NAL's Role in Technology Transfer

- **Technical Consultation.** Many of the NAL staff conduct applied research on electronic technologies to determine if and how the technologies can assist the agency to achieve its mission of preserving, managing, and disseminating information. As the "early adopters" of information technologies, NAL staff are available to both the public and the private sector as technical consultants.
- **Outreach.** In 1988 NAL sponsored a forum to discuss and disseminate information on the practical applications of new technologies within the library and information communities. Proceedings from this conference entitled *Application of Scanning Methodologies in Libraries* are available to the private sector. The Library also held an open house in 1989 to display and discuss information management-related entrepreneurial opportunities with the private sector.



USDA photo (89BW1028-35) by Bruce Fritz

Fiber rich baked goods held by J. Michael Gould, chemist at the ARS Northern Regional Research Center in Peoria, IL, are made from a no-calorie, high-fiber flour, based on a process he invented with biologist Lee Dexter to soften fibrous parts of cereal crops so they can be ground up and used as flour. The patented process, one of 418 patents granted to ARS in the past ten years, has been licensed to commercial firms which will produce the dietary fiber from oat hulls, corn cobs, etc., to sell to bakeries to enrich the fiber content of regular flours while reducing the calories of baked products.

- **Information Services.** *Technology Transfer: A Profile of Agency Activities in USDA* was compiled by NAL staff in March 1989. The publication describes the successful transfers and also the types of technologies used and/or needed by 11 different USDA agencies.
- **Collection Development.** The concept of technology transfer does not portray "business as usual" for the Federal government. Rapid access to current information is critical to USDA scientists as they strive to improve agricultural and forest productivity, or find new and alternative uses for agricultural products. In addition to the traditional scientific literature that NAL collects, the Library is now supplementing the collection with technology transfer publications that focus on such areas as: leadership, innovation, creativity, entrepreneurship, venture capital, patents, licensing agreements, and competitiveness.

Experts across the country claim that technology transfer is a "contact sport!" It requires: people to people contact; the establishment of networks throughout the Federal laboratory and the State university systems; and a passionate belief that the "T-squared" process can work to enhance the competitiveness of the United States in the global marketplace. NAL's role in technology transfer continues to evolve.

USDA photo (89BW0504-5A)

ARS scientist Gideon Schaeffer examines protein-rich rice developed using a tissue-culture technique he pioneered.

The following consists of excerpts taken from the report, *Technology Transfer: A Profile of Agency Activities in USDA*, submitted by the Technology Transfer Subcommittee of the Research and Education Committee, U. S. Department of Agriculture, Dr. Denzil O. Clegg, Chairman. Prepared by Kathleen C. Hayes, National Agricultural Library, Theodore J. Maher, Extension Service, and James T. Hall, Agricultural Research Service. Revised March 1989.

Technology Transfer in USDA: A Summary of Activities

USDA photo (88BW1375-19A) by Bob Bjork

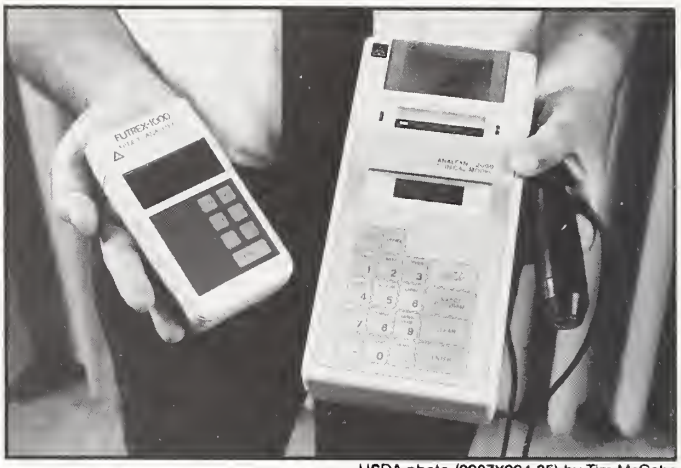
A spiked-drum shaker for harvesting blackberries is put through its paces by its developer, ARS engineer David Peterson at the Appalachian Fruit Research Station, Kearneysville, WV. This mechanical harvester may reduce growers' picking costs and improve harvest quality.

Technology transfer, broadly defined as "getting the results of research into the hands of those individuals and organizations who can put it into practical use" has long been a thrust of USDA Agencies. However, the Technology Innovation Act of 1980 (P.L. 96-480) and the Technology Transfer Act of 1986 (P.L. 99-502) gave additional emphasis to this role for all Federal agencies. This was emphasized further by Presidential Executive Order 12591 entitled "Facilitating Access to Science and Technology" which was issued by President Reagan on April 19, 1987.

The Assistant Secretary of Agriculture for Science and Education was delegated the authority to coordinate

USDA photo (0987X993-4) by Tim McCabe

Robert Rosenthal (left), president of Futrex, Inc., and Karl Norris, agricultural engineer of the ARS Instrumentation Laboratory, Beltsville, MD, demonstrate Futrex's new body-fat analyzer based on near infrared light technology developed by Norris.



USDA photo (0987X994-35) by Tim McCabe

Using ARS developed technology, computerized instruments provide a quick measurement of total body fat percentage at a touch of a light wand to a person's bicep. If age, weight, body type, sex, and activity level are typed into the larger model, it can provide a customized weight loss and activity program to improve that person's muscle-to-fat ratio.

USDA technology transfer activities and in December 1986 formed the Technology Transfer Subcommittee under the auspices of the USDA Research and Education Committee. The objectives of this Subcommittee are to:

- Serve as a focal point for interagency cooperation in coordinating and fostering joint technology transfer efforts.
- Identify potential policy issues and their ramifications for technology transfer within USDA.
- Serve as a forum for interagency awareness (information sharing) on planned or ongoing technology transfer efforts by the respective agencies.
- Identify joint technology transfer opportunities and develop mechanisms for creating, funding, and facilitating these efforts at national, regional, and field levels.

Eighteen USDA Agencies and organizations elected to become members of the Technology Transfer Subcommittee. They are:

- Agricultural Marketing Service (AMS)
- Animal and Plant Health Inspection Service (APHIS)
- Agricultural Research Service (ARS)
- Cooperative State Research Service (CSRS)
- Economic Research Service (ERS)
- Extension Service(ES)
- Federal Crop Insurance Corporation (FCIC)
- Federal Grain Inspection Service (FGIS)
- Food and Nutrition Service (FNS)
- Forest Service (FS)
- Food Safety and Inspection Service (FSIS)
- Human Nutrition Information Service (HNIS)
- National Agricultural Library (NAL)
- Office of General Counsel (serve as counsel only) (OGC)
- Office of Governmental and Public Affairs (OGPA)
- Office of International Cooperation and Development (OICD)
- Soil Conservation Service (SCS)
- World Agricultural Outlook Board (WAOB)

This report *Technology Transfer: A Profile of Agency Activities in USDA* is a result of a cooperative effort among member agencies of the USDA Technology Transfer Subcommittee. For additional information on USDA efforts and accomplishments in technology transfer contact:

Associate Administrator
USDA - Extension Service
USDA Technology Transfer Subcommittee
Room 340A Administration Building
Washington, D.C. 20250

Phone: (202) 447-3381

SAMPLING OF USDA TECHNOLOGY TRANSFER ACTIVITIES

The following are abbreviated mission statements and brief illustrations of technology transfer activities conducted by agencies within the U.S. Department of Agriculture.

Agricultural Research Service

ARS conducts basic and applied research pertaining to soil and water conservation, plant sciences, animal sciences, commodity conversion and delivery, human nutrition, and

integration of agricultural systems. The following are examples of accomplishments for 1988:

- 28 patents granted to ARS.
- 18 patent licenses issued to industry firms.
- Inventions reported totalled 139, an increase of 83% over the previous year.
- 45 Cooperative Reasearch and Development Agreements signed with industry firms, and another 40 being negotiated.
- 3600 reports on new research findings described on the ARS computerized TEKTRAN system (Technology Transfer Automated Retrieval System) and made available to industry firms, Cooperative Extension Services and government agencies.

Animal and Plant Health Inspection Service

APHIS conducts research and development in such areas as pest eradication, treatment of animal diseases, animal damage control and biocontrol. Recent accomplishments include:

- Development of monoclonal antibody transferred to industry for the veterinary medicine market.
- Toxicant for control of roosting blackbirds.
- Technology to control predation on livestock.

Cooperative Extension System

The Extension Service is the USDA agency most directly associated with a technology transfer mission. As a model public sector technology transfer system, Extension networks with user groups to identify needs for new technology, integrates knowledge and technologies into user-oriented packages, and educates clientele to implement technology packages. Recent examples of technology transfer include:

- Establishment of Research Results Data Base which delivers USDA research findings prior to "official" publication.
- National Wood Products Extension Program (NWPEP), a joint project with the Forest Service's Forest Products Laboratory, provided lumber drying workshops in Pennsylvania. These saved the industry $271,000.
- 4 North Carolina firms use wood residues to save $450,000 per year in fuel costs.
- A survey of homeowners revealed that 336 of 12,000 Texans saved $35,000 from applying information received from Extension.
- GOSSYM-COMAX, a computer-based simulation of cotton growth and yield, is being tested to determine if it can provide reliable and accurate information for onfarm use.
- Interdisciplinary chemigation task force appointed in Nebraska.

Cooperative State Research Service

In recent years, the Special Projects Unit in CSRS has been bridging the gap between research results and commercialization with demonstration projects. The identified projects began in 1986:

- Kenaf Demonstration Project began with a cooperative agreement with a venture capital firm. The project's objective was to gain acceptance for kenaf as a source fiber for the manufacture of newsprint. As a result of the demonstration, a $300 million kenaf newsprint mill will be constructed and 40,000 acres of unsubsidized kenaf will be needed to fill the mill's needs.
- Under a guayule domestic rubber project, the Department of Defense is providing $11 million to build and operate a prototype processing plant that will process 275 acres of guayule shrub into 50 tons of natural rubber, 100 tons of resin and low molecular weight rubber, and 1,600 tons of plant residue. Private sector, land grant universities and USDA are investing in this project.
- The market potential for the Hybrid Striped Bass is promising. Because of a moratorium on striped bass fishing in the Chesapeake Bay, there is an immediate market shortfall of 14 million pounds. Private and government marketing experts estimate a beginning market of 54 million pounds – equal to that of trout. At that production level, producers' gross income would be about $182 million.

USDA photo (0985X998-29)

Freddi Hammerschlag, ARS plant physiologist at the Tissue Culture and Molecular Biology Laboratory, Beltsville, MD, holds a jar containing two small peach tree shoots. She used biotechnology tissue culture techniques to screen large numbers of cells in a concentrated effort to combat leaf spot, one of the fruit's worst diseases. Specimens of these disease-resistent shoots are then tested outdoors to determine whether they will remain disease free.

Economic Research Service

ERS technology responsibilities involve economic analysis of the potential for new technologies to affect agricultural policies, commodity production and trade, financial well-being of the farm sector and rural economies, and agricultural resource utilization. Issues recently examined are:

- National, regional, and farm-level impacts of bovine somatropin (bST) also referred to as bovine growth hormone (bGH) and its effects on the dairy industry.
- Livestock growth hormones and the potential impacts of growth hormone adoption on feed and grain demand, land use, farm income, international competitiveness, and on food safety and product quality.
- Cost and competitiveness of the ethanol industry and the potential for new technologies to reduce production costs.

Federal Grain Inspection Service

FGIS is presently developing systematic methods of transferring technologies to the grain inspection system which, when implemented, will provide sound and objective testing procedures to facilitate the efficient marketing of grain and grain related products. A task force was formed to determine the best means of transferring the most effective technologies available to the grain inspection system. A prime example of a successful transfer includes:

- Near Infrared Reflectance instrumentation was developed by the Agricultural Research Service and refined by the private sector to meet the needs of FGIS and the grain industry. The instrument which provides a quick analysis of grain moisture, protein, oil, and fiber, without classical wet chemical methods, is now being produced by the private sector.

Food Safety Inspection Service

FSIS is responsible for the safety, wholesomeness, and accurate labeling of meat and poultry products. Most of the agency's technology transfer activities are relative to the development and commercialization of rapid diagnostic tests. FSIS has a Technology Transfer and Assessment Staff which assesses emerging technologies and facilitates transfers. The examples trace a ten-year history of technology transfer activities:

- Swab Test for use On Premises (STOP) was developed to determine the presence of antibiotics and residues in animal tissues.
- A similar test was developed for the detection of sulfonamides in calves, Calf Antibiotic Sulfa Test (CAST). What started out as an FSIS "quick test" developed into the nucleus of a small commercial business.
- One entrepreneur recognized the market for these rapid diagnostic tests and subsequently developed a rapid and portable card test for gentamicin. The FSIS Microbiology Division purchased the cards and worked out the prototcols for agency use.
- At least a dozen (12) rapid diagnostic tests have resulted from FSIS and the private sector's working together.

Forest Service

FS technology transfer programs embrace everything from fire prevention to a wide array of bio-technology and genetic engineering, from utilization of forest products and incentive programs for small woodland owners to computer analysis systems and new organizational management techniques. Examples of Forest Service transfers include:

- Laminated wood bridge deck technology can replace either structurally or functionally deficient bridges with savings of 1/3 to 1/2 the cost of current replacement expenditures.
- Forests in the Pacific islands of Micronesia and American Samoa are crucial as they protect soils, shorelines, fisheries and fresh water supplies. FS has concentrated efforts on the development of forestry personnel from over 10 different governments: education, on-site seminars and personnel exchange are a few methods of technology transfer used.
- 7 formal technology transfer agreements with various non-federal parties.
- Partnership was formed with a vendor to implement the National Information Management Network.

Human Nutrition Information Service

HNIS conducts research on food consumption, dietary survey methodology, food composition, nutrition knowledge and attitudes, and dietary guidance and nutrition education techniques. Primary users of the information are nutrition and health professionals, including the private sector. Three major areas of focus are:

- National Nutrient Data Bank, the most comprehensive data on the nutrient composition of foods, is developed through research and cooperation with industry, trade and outside agencies.
- Nationwide Food Consumption Survey data used in research, education and food program planning.
- Dietary guidance and nutrition education resources are distributed to nutrition and health educators, and the general public.
- Research and education resources are used by private sector firms to develop such products as textbooks and computer software packages.

National Agricutural Library

NAL is responsible for the organization and dissemination of agriculturally-related information to a variety of end users. Although the Library is not often thought of as having a role in technology transfer, it is often the starting point for researchers. Several examples of recent activities include:

- The expansion of the national collection to include the subject of technology transfer itself, as well as other related areas of economic competitiveness, innovation, leadership and critical thinking, taking charge, and state technology programs.
- A biotechnology firm needed information on nutri-

tion, feed formulation, and worldwide markets for cultured salmon. Using the technical assistance provided by NAL, the company marketed its product and estimated a sales potential of $75 to $100 million annually.
- A group of Federal water quality experts, including some outside of USDA, are experimenting with an electronic communication networking system to increase their collaborative efforts.

Office of Governmental and Public Affairs, Office of Information

OI coordinates the transfer of new technology over the entire department. Information the Department or its agencies deem of national importance is turned over to OI for release. 1988 results of OI's coordinating efforts include:
- 1,757 national press materials released.
- Weekly Radio Services, containing four weekly series, was distributed to nearly 1,000 radio stations and networks. A fifth, Hispanic Information Service was distributed to more than 200 stations.
- 3 weekly television programs were broadcast by satellite.
- 1400 audio teleconferences linked people across the country to discuss department research and programs.

Office of International Cooperation and Development

OICD cooperative programs with countries worldwide promote the transfer of new technology, knowledge, information, and skills beneficial to U.S. agriculture and other countries. The following are recent accomplishments of transferring technology into the United States:
- Research with Yugoslavia and Poland led to the discovery of four insect parasites which are capable of controlling the cereal leaf beetle. The parasites were released in the U.S. and subsequently reduced the cereal leaf beetle problem to one of minor importance. Control of this beetle by chemical means would have cost $100 million in the U.S.
- Trait for resistance to the white rot disease in onions has been transferred (from Egypt) to several commercial cultivars in the U.S.
- The technique (from Israel) for control of soilborne pests by solar heating of soils was refined and used on U.S. pistachio and vegetable crops. Estimated value of this technology transfer is about $31 million.
- Examples of U.S. technology transferred to other countries include the low-cost extrusion cooker for use in manufacturing nutritious supplementary food products, and the alleviation of the grasshopper/locust threat in northern Africa.

Soil Conservation Service

SCS basic mission embodies the effective, efficient transfer of soil and water conservation technology to land users. The agency has just completed an in-depth study of technology management and has also identified 3 main initiatives to improve technology transfer to the public. The following are recent accomplishments:
- Computer Assisted Management and Planning System uses data processing techniques and database management systems with application software to assist in planning and installing soil and water conservation practices.
- Engineering and/or economic handbooks, manuals or software programs are available through NTIS.
- In 1985, commercial production of SCS releases amounted to 7 million pounds of seed and 9.4 million plants. The retail value of both seed and plants was about $25 million.

USDA Research and Education Committee Technology Transfer Subcomittee

Chairman: Denzil Clegg, ES, 447-3381

Agency, Name, Address, Phone

AMS, Larry V. Summers (M), Rm. 3521, South Bldg., 447-8317; Charles R. Brader (A), Rm. 3524, South Bldg., 447-3075

APHIS, Ralph T. Ross (M), Rm. 1630, South Bldg., 447-5015

ARS, James T. Hall (M), Rm. 404, B.005, BARC-W, 344-4045; M. Ann Whitehead (A), Rm. 401, B.005, BARC-W, 344-2786

CSRS, Edward M. Wilson (M), Rm. 330 K, Aerospace Bldg., 447-4329; Paul F. O'Connell (A), Rm. 342A Aerospace Bldg., 447-2860

ERS, John Reilly (M), Rm. 528, N.Y. Ave., 786-1450; John McClelland (A), Rm. 428, N.Y. Ave., 786-1456

ES, Ted Maher (M), Rm. 3865, S. Bldg., 447-7185

FCIC, David Gabriel (M), Rm. 4082, S. Bldg., 475-4407; Norman Lappert (A), Rm. 4096, S. Bldg., 382-1898

FGIS, Steven Tanner (M), P.O. Box 96454, Rm. 1626, S. Bldg., 382-0226

FNS, Patricia Porter (M), Rm. 808, Park Ctr. Dr., Alexandria, VA, 756-3032

FS, Al Schacht (M), Rm. 3013, S.Bldg., 447-3331; Robert Breazeale (A), Rm. 4021, S.Bldg., 447-3331; George Moeller (A), Rm. 3112, S.Bldg., 447-7075

(See Technology Transfer Subcommittee, p. 10, col. 1)

Technology Applications

Universal Agricultural Thesaurus

Towards Improved and More Consistent Access to Agricultural Information: an International Meeting

Twenty-two members of the international agricultural community met in Washington, D. C., on October 23, 1989, to discuss issues related to improving access to agricultural information through improved thesauri and access mechanisms. It resulted in the appointment of a task force to draft a statement of work for a feasibility study to determine how existing controlled vocabularies can be made more compatible, how a gateway interface can be developed to link existing systems, and how a universal agricultural thesaurus can be created.

This meeting was called as a result of earlier discussions among staff from the National Agricultural Library (NAL), CAB International and the Executive Secretariat of the Consultative Group on International Agricultural Research (CGIAR) on this same topic. Given the broad scope of the international agricultural community and the broad range of issues relating to control of and access to agricultural information, it was decided that a discussion meeting with a wide range of participation from the agricultural community was necessary to determine the direction of future activities.

NAL's Director, Joseph H. Howard, chaired the meeting and opened it by noting that this is one of many discussions on thesaurus enhancement as a means of providing more consistent access to agricultural information. The first item on the agenda was to discuss the draft statement of purpose distributed to participants prior to the meeting. CABI, FAO, and NAL made introductory statements of their positions. What followed was a very wide ranging discussion on many key issues related to thesaurus development and gateway access.

The purpose of the gateway feature of a thesaurus system was clarified: The gateway is to facilitate access between existing databases. The NAL view that technology, the gateway feature, can help in thesaurus construction was supported by a number of participants.

The issue of user needs was a prime consideration. It was noted that databases are constructed based on user needs and that it is difficult for the user when each database has a different search strategy. Ease of use is a key user concern. Searching has changed significantly since the introduction of the new CD-ROM technology. Hopefully, future technologies will simplify searching for many users.

Cooperative thesaurus development and the umbrella thesaurus concept were discussed at length. FAO and CABI each tried to create its own thesaurus to be compatible with the other's; this compatability is known as the "umbrella concept." However, there was not complete compatibility between *AGROVOC* and *CAB Thesaurus*. Closer cooperation could resolve many problems. For instance, some basic social science terms needed by specialized groups do overlap. There is a waste of resources since work on these terms is duplicated. A common agreement on groups of terms, such as geographic terms, will serve researchers as well as nonspecialized searchers.

Mr. Howard closed the first session by noting that many problems had been discussed and that the group needed to consider solutions to them. Thought must be given to what kind of system would be appropriate and what group of people should be involved in its creation.

Presentation of Major Issues

The second session began with a series of presentations on the major issues outlined in the statement of purpose.

Martha Hood, Indexer, NAL, made a brief presentation of five issues of concern in discussing content that are important for both printed products and online databases. They are 1) scope (limit of subject areas), 2) coverage (exhaustivity and specificity of subject area), 3) types of terms (topical terms, geographic terms, names of organisms), 4) languages, and 5) miscellaneous information.

Stella Dextre Clarke of CAB International discussed format issues. There are many detailed format considerations related to a printed thesaurus format. The thesaurus can be organized by 1) alphabetical, 2) permuted, 3) classified, or 4) graphic displays. Alphabetical and classified displays are used heavily. A graphic display is not useful for an agricultural thesaurus with many taxonomic terms. Structure is a complex issue which must be managed since controlled language is necessary to obtain a quality result when accessing databases.

Pam Andre, Chief, Information Systems Division, NAL, addressed systems issues. The system needs to support four functions: 1) thesaurus development and maintenance, 2) the gateway interface, 3) local or partner specific capabilities, and 4) operational facilities. It is important to have a centralized thesaurus maintenance system to support a thesaurus master file. A cooperative project such as this needs a distributed input capability so cooperators are able to update this file from local input centers. A centralized thesaurus master file should be searchable at all levels. The system needs to support a gateway feature for search acess. This feature should facilitate access for both experienced and novice users. The gateway serves as a multiple system interconnection. Connecting users to many systems is a complex task, but the gateway would facilitate access to many databases that differ in search strategies and thesauri.

Sarah Thomas, Chief, Technical Services, NAL, completed the series of presentations with a discussion of governance issues. Governance can be divided into four groups: 1) a board of governors to oversee all functions, 2) an end-users group to evaluate system effectiveness, 3) a thesaurus review board to oversee thesaurus development and maintenance, & 4) a systems group to oversee system issues.

The Board of Governors would establish policy and ad-

minister funding. Four issues of concern are: 1) the makeup of the board, 2) the appropriate membership size of the board, 3) meetings, schedules and locations, and 4) leadership roles.

The Thesaurus Review Board would need members who are knowledgable about thesauri construction, have subject expertise, and have linguistic ability. This board's functions could be similar to those of *AGROVOC*'s semi-annual review meetings.

The End-users Group would be comprised of experienced database users. They would serve as a conduit to the agricultural community and other bodies.

The Systems Group would manage the automated support system and the gateway.

Mr. Howard opened the afternoon session by suggesting that one recommendation from participants could be to seek a grant or several grants to strengthen and improve current thesauri and databases. Another possibility would be to seek money for a feasibility study, which would serve as a thinking paper to outline various approaches to the problem of improving access to agricultural information through improved thesauri.

From many viewpoints, there is a need to continue working with the existing controlled vocabularies and to make them more compatible. It is unclear just what level of compatibility is possible. It was suggested that these issues should be part of a feasibility study which would consider existing systems and go from there. There was general consensus to have a feasibility study done. There was also agreement that a gateway needs to be part of any system design since information does exist which has to be linked for effective access.

Sarah Thomas, Pam Andre, and Stella Dextre Clarke were tasked with defining a statement of work for the feasibility study. This will be used as the basis to request funding for the study. All meeting participants will have a chance to review the statement of work before a consultant is hired.

--Pamela Andre

National Agricultural Text Digitizing Project Update

The Advisory Panel of the National Agricultural Text Digitizing Project (NATDP) met with NAL Staff on November 13-14 to review the project's progress to date and to discuss its future. The members of the Advisory Panel are:

Noreen Alldridge, Montana State University
John Beecher, North Dakota State University
Nancy L. Eaton, Iowa State University
Paul Gherman, Virginia Polytechnic Institute
H. Joanne Harrar, University of Maryland
Susan K. Nutter, North Carolina State University
Thomas W. Shaughnessy, University of Minnesota, Twin Cities
Joe Howard, NAL, ex officio

Current Status of Project

CGIAR. The project's second test disk, containing material published by members of CGIAR, the Consultative Group on International Agricultural Research, has been distributed to participants and is in the process of being field-tested by users. (The first test disk was on Aquaculture.)

Agent Orange. Work is underway at NAL on the third disk on the topic of Agent Orange. All of the Agent Orange collection has been scanned. Work is underway to establish image links. NAL expects this work to be completed by the end of December. Participants can expect to receive the Agent Orange test disk, documentation, and evaluation forms during the last two weeks of January, 1990, with evaluations due back by March 15.

Acid Rain. The University of Vermont has completed a test file of 1,000 pages of Acid Rain materials using KAware retrieval software and expects to have final scanning and disk production completed by the end of February. NAL expects to distribute the Acid Rain disks, documentation, and evaluation forms by the end of March, with evaluations due back by mid-May.

Image Transmission Project

The telecommunications portion of the project, which is experimenting with transmission of ASCII text and bit-mapped images between NAL and North Carolina State University via the INTERNET, has begun. NAL has acquired the necessary equipment to connect with the SURANET node at the University of Maryland via a T1 line. NAL has sent and received text messages and image files to/from the University of Maryland but has not yet sent any image files to North Carolina State University. Panel members received copies of a detailed project plan from project manager Susan Nutter, who will also be responsible for the project evaluation report.

Future of the Digitizing Project

The NATDP Advisory Panel discussed in detail the experiences to date and whether the project should end with the completion of Phase 3 or whether there were additional issues which should be pursued as an extension of the original project. The following areas were identified as needing further exploration; they require a continuation of the project:

Workstation Design. The Advisory Panel and NAL Staff concur that a low-end workstation which handles images as well as ASCII and which uses standard microcomputer components and a moderately priced graphics monitor is needed, since many collections do not lend themselves to ASCII. Consultant Cliff Lynch will draft a working paper regarding software and components needed as a standard workstation platform; he will prepare it for discussion at the Midwinter meeting of the Advisory Group.

Microform Scanning. There is a need to scan and convert from source documents which are on microfilm and microfiche. Such scanners are just now becoming available in the marketplace and should be evaluated for effectiveness.

Remote Scanning Facilities. Software is now becoming available which will convert a variety of image formats into one format which might then be archived by NAL. This

allows us to think about other land-grant libraries with different image capturing equipment to share in the labor of creating collections of images using such technologies as telefacsimile equipment, Kurzweil machines, etc. The concept of distributed responsibilities for creating image collections should be explored.

Image Collections Transferred over Internet. Following the experience of the NAL/NCSU image transmission project, NAL will solicit input from the agricultural/land-grant community about how to expand this capability and what information is the highest priority for such networking.

Links to AGRICOLA. NAL and the agricultural community should pursue the question of how to link availability of image collections to the indexing in AGRICOLA and cataloging in national databases.

Future NATDP Updates

In order to give more timely updates about the NATDP, staff will begin to submit regular reports to *ALIN*, NAL's newsletter, and to ALF, NAL's electronic bulletin board.

For additional information contact:

Pamela Andre, Chief
Information Systems Division
National Agricultural Library
10301 Baltimore Boulevard, 5th Floor
Beltsville, MD 20705
Or call: (301) 344-3813.

—Pamela Andre

(Technology Transfer Subcommittee, from p. 7)

FSIS, David Berkowitz (M), Rm. 4911, S.Bldg., 447-8623; Alicia Jarboe (A), Rm. 4911. S.Bldg., 447-8623

HNIS, Anne Shaw (M), Rm. 353, FCBG, Hyattsville, MD, 436-5194

NAL, Kathleen Hayes (M), Rm. 304, NAL Bldg., Beltsville, MD, 344-3704; Robyn Frank (A), Rm. 304, NAL Bldg., 344-3719

OGC (Counsel only), M. Howard Silverstein, Rm. 2330, S. Bldg., 447-4866

OGPA, John J. Crowley (M), Rm. 536-A, Admin. Bldg., 447-8181; Russell Forte (A), Rm. 528-A, Admin. Bldg., 447-5505

OICD, Calvina Dupre (M), Rm. 367, 2121 K St., 653-7462

SCS, Lee P. Herndon (M), Rm. 6135, S. Bldg., 447-5014; Marc Safley (M), Rm. 6155, S. Bldg., 447-3921

WAOB, Norton D. Strommen (M), Rm. 5133, S. Bldg., 447-3125; Richard C. McArdle (A), Rm. 5143, S. Bldg., 447-5193

M = member
A = alternate

NAL's FY 1990 Budget

The National Agricultural Library received an appropriation for Fiscal Year (FY) 1990 in agriculture legislation signed by President Bush on November 21.

The FY 1990 budget includes increases for acquisition of library materials, preservation binding, support of networking among libraries in agriculture and related sciences, general operating expenses, and NAL's Biotechnology Information Center. The appropriation also includes new funds for establishing NAL's Water Quality Information Center and a grant for the National Center for Agricultural Law Research and Information of the Leflar School of Law at the University of Arkansas.

Offsetting these increases and decreasing NAL's funding base are cuts of $207,000 imposed by the Reconciliation Bill, which calls for a 1.4% reduction to satisfy the Gramm-Rudman-Hollings Act. NAL will also be required to absorb a 3.6% pay raise for its employees which becomes effective in January, 1990.

These actions give the Library an adjusted appropriation level of $14,676,000 to finance its operations for FY 1990. In addition NAL will receive approximately $1,500,000 from other agencies to finance endeavors of mutual concern.

—Paul Bennett

SilverPlatter Assembles Trio of the World's Largest and Most Important Agricultural Databases: CAB ABSTRACTS - AGRIS - AGRICOLA

This past fall, SilverPlatter strengthened its family of agricultural databases by entering into agreements with CAB International, a world renowned publisher of agricultural and related information, and the AGRIS Coordinating Centre from the Food and Agriculture Organization of the United Nations (FAO) to produce their prestigious databases on compact disc. Together these databases join AGRICOLA to form a comprehensive collection of agricultural information.

While SilverPlatter's PEST-BANK complements the trio by providing further coverage in the related field of pesticides, the new co-publishing agreement with BIOSIS...makes a wealth of relevant information in the life sciences available on SilverPlatter CD-ROM.

CAB delivers detailed abstracts

CAB ABSTRACTS on compact disc is a unique information source because over 80% of its 800,000 bibliographic records have detailed abstracts. These abstracts have been prepared by scientific experts with special knowledge in the appropriate field. CAB ABSTRACTS covers in breadth and depth all aspects of agriculture, forestry, and allied disciplines. It covers animal and crop husbandry, animal and plant breeding, plant protection, genetics, forestry engineering, economics, veterinary medicine, human nutrition

and more. Over 10,000 journals are scanned for inclusion in CAB ABSTRACTS, as well as books, conferences, reports, and other kinds of literature published worldwide.

CAB ABSTRACTS, now available on CD-ROM from SilverPlatter, was officially launched at a reception at the Online Conference last November in Chicago,Illinois....

Co-publishing agreements with FAO distributes AGRIS to developing countries

AGRIS, to be published by SilverPlatter on CD-ROM in 1990, is produced by the AGRIS Coordinating Centre under the Food and Agriculture Organization of the United Nations (FAO). A multilingual, international bibliographic database, AGRIS is the result of a cooperative effort involving contributions from 110 countries and 15 specialist agricultural research institutions worldwide. Experts resident in each of these countries provide the international coverage found in this database. Literature consulted includes such unique materials as scientific and technical reports, theses, conference papers, and more. This database covers all aspects of agriculture, including economics, development and rural sociology, plant science and production, plant protection, postharvest technology, forestry, animal husbandry, the aquatic sciences and fisheries, human nutrition, and more. AGRIS will be updated quarterly.

During the month of November, the United Nations Food and Agriculture Organization held its annual meeting in Rome. The AGRIS CD-ROM product was demonstrated at this meeting where over 100 Ministers of Agriculture were present. Through this cooperative publishing arrangement, SilverPlatter will supply the FAO with 200 copies of the AGRIS CD-ROM database for distribution within FAO and the 140 AGRIS centres worldwide. Through this agreement, together with special pricing, SilverPlatter aims to promote the flow of information and technology to developing countries.

AGRICOLA contract establishes widespread use of CD-ROM

In another recent agreement, the EEC funded Technical Centre for Agricultural and Rural Cooperation in the Netherlands has purchased the AGRICOLA database from SilverPlatter for distribution in developing countries. Currently, 11 countries in Africa, the Caribbean, and the Pacific have received AGRICOLA. Future plans call for expansion of this program to 60 countries.

[Reprinted with permission from *The SilverPlatter Exchange*, 3(1):2, January 1990.]

AGRICOLA vs. AGRIS

Although the National Agricultural Library provides AGRICOLA input to the AGRIS Coordinating Center, that Center is selective in what U.S. records it loads into AGRIS. Therefore, bibliographic database users who desire access to complete U.S. records need to have access to AGRICOLA or products derived from it, such as AGRICOLA on CD-ROM.

Toll-Free Access Now Available for ALF

The National Agricultural Library's (NAL) computer bulletin board, ALF (Agricultural Library Forum), now is available anywhere in the United States through a toll-free number, 1-800-345-5785. ALF will continue to be available through the commercial telephone numbers (301) 344-8510 and (301) 344-8511, as well.

ALF provides round-the-clock remote access to messages, bulletins, conferences and files on agricultural information systems and services. Agricultural information on a variety of subjects can be accessed in several ways. Messages may be read and entered in the main message system or in one of the many subject specific conferences. Subject conferences include animal welfare, agricultural compact disks, the AGRICOLA database, water quality, biotechnology, publications trading and others. Each conference includes separate message areas and bulletins.

More than 20 bulletins in the main message system give detailed lists and/or discussions of NAL activities, programs and projects. Almost 200 files are available for downloading from the "Files" subsystem. "Files" cover a range of subjects listed in 12 categories, including full-text bibliographies, lists of NAL reference publications, updates to the AGRICOLA subject codes and other aids for AGRICOLA searchers, public-domain computer software items, lists of bulletin board systems and others.

Users of ALF may "logon" using either the toll-free or commercial number. FTS users may dial 344-8510. When logging on, use the settings for DIALOG or BRS, which are: "n" (no parity), "8" (eight data bits), "1" (one stop bit), full duplex, 1200 or 2400 baud, and, soon, 9600. Answer "N)one" or "N)o" to the questions asked at initial registration regarding preferences for graphics and highlighting.

For assistance, call the ALF system operator, Karl Schneider, at (301) 344-2113.

—Karl Schneider

Publications Exchange Listings on ALF

The National Agricultural Library (NAL) has added a new conference to its computer bulletin board ALF (Agricultural Library Forum) which will allow libraries and other ALF users to obtain, donate and trade agricultural publications.

Called **"Publications Tradepost for Libraries (PTL),"** the new conference announces serial gaps in NAL holdings and surplus serials and other titles held by NAL. Libraries and other users of ALF will also be able to share information about their serial gaps and surplus publications. NAL believes use of this conference feature will expand cooperation and resource sharing among libraries.

To reach ALF via a microcomputer-modem system, dial either toll-free (800) 345-5785, or commercial (301) 344-

8510 or (301) 344-8511. FTS users may dial 344-8510. Use the computer settings for DIALOG or BRS, which are: "n" (no parity), "8" (eight data bits), "1" (one stop bit), full duplex, 1200 or 2400 baud and, soon, 9600. Answer "N)one" or "N)o" to the questions asked at initial registration regarding preferences for graphics and highlighting.

From the M)ain menu screen, type J)oin to see the list of available conferences, then enter "**PTL**" to join this sub-board conference. NAL's Surplus Publications list is Bulletin #1, Serials Gaps (when announced) will appear as Bulletin #2 and Bulletin #3 lists additional surplus titles. Type B)ulletin from the conference (sub-board) main menu prompt. Then enter the number of the bulletin desired.

The procedures to list serial gaps and surplus publications are:

- E)nter a message about the specific titles being listed (in this conference only)
- Send the message to [A]ll, which is ALF's default value
- Type "**GAP**" or "**SURPLUS**" as the subject of the message
- Type the title of the work on line #1, followed by a carriage return (the "Enter Key")
- Enter volume/issue/date information, then carriage return (the "Enter Key") on line #2
- Provide a telephone number and/or mail address, etc. as needed, on subsequent lines
- Enter carriage return (the "Enter" key) in column one of the next blank line to enter edit mode to S)ave (send) the message. Errors may be be corrected using the built-in line editor.

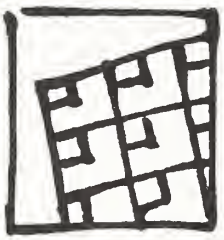
When finished in PTL, or any other conference, type J)oin followed by the name of the next conference desired, or M)ain to quit all conferences, or, type G)oodbye to end the online session. A few additional ALF pointers are:

- The ALF command line is the list of single characters at the bottom of the screen. The X)pert command turns the listing of command functions appearing above on or off
- Default command values are shown in square brackets, "[ ]"
- The ALF User's Guide may be downloaded from the board. Type F)iles from the M)ain menu, then D)ownload. Enter the filename "**ALF.DOC**" for the ASCII text version, or "**ALFDOC.ARC**" for the ARChived version. The latter is a compressed file which transmits more quickly. See Bulletin #4 in the M)ain message area to learn about ARChived files.
- Bulletin #9 in the M)ain message system gives detailed instructions on R)ead, E)nter, S)can, the EDITOR, and other message system commands.
- To show a blank line in a message, either typed online or uploaded from a text file, there must be an ASCII character in column one of the blank line. Use the spacebar, or an ASCII symbol in column one. If one types the enter key in column one, EDIT mode will begin, and the remaining text will be translated into edit commands, or ignored, if invalid.
- ALF users must enter EDIT to S)ave and send a message. Type carriage return (the "Enter" key in column one of a blank message line.

For assistance in using ALF, call the system operator, Karl Schneider, at (301) 344-2113, or the PTL Coordinator, Ruth Finblade, at (301) 344-1207. These numbers are also FTS.

NAL is part of the U.S. Department of Agriculture. It is the foremost agricultural library in the world, containing nearly two million volumes and receiving 26,000 current periodicals from throughout the world. With the Library of Congress and the National Library of Medicine, NAL is one of three national libraries of the United States. In addition to providing a full range of services related to information and document delivery, NAL has established fourteen information centers which attempt to keep abreast of new developments and literature and provide services on specific subjects currently of greatest interest to the international agricultural community.

—Karl Schneider and Ruth Finnblade



Agriculture Datebook

January 3-7: Recombinant DNA Methodology Course. Washington, DC; Catholic University. Contact: CATCMB, (202) 635-5276.

January 5: FFA (BOAC) Regional Development Conference. Washington, DC; Hyatt Regency Dulles Airport Hotel. Contact: (202) 447-4581.

January 6-11: American Library Association Mid-Winter Meeting. Chicago, IL.

January 7-9: Plant Gene Expression Center Review. Albany, CA. Contact: (202) 447-3656.

January 7-11: American Farm Bureau Federation 71st Annual Meeting. Orlando, FL. Contact: AFBF, (202) 484-3600.

January 7-11: National Turkey Federation Convention. San Diego, CA; Sheraton Harbor Island Hotel. Contact: NTF, (804) 435-7206.

January 8-9: FFA (BOAC) Regional Development Conference. Atlanta, GA; Hyatt Regency Atlanta Airport Hotel. Contact: (202) 447-4581.

January 9-11: National Fisheries Institute Second Seafood Regulatory & Technology Developments Conference. San Antonio, TX. Hilton Palacio Del Rio Hotel. Contact: NFI, (202) 296-5090.

January 10-13: National Association of Wheat Growers 40th Annual Convention. San Antonio, TX; Rivercenter Marriott Hotel. Contact: NAWG, (202) 547-7800.

January 11-14: 5th National Direct Marketing Conference. Toledo, OH; Seagate Centre. Contact: Kelso L. Wessel, (614) 292-4080 or 292-2701.

January 12: Purdue University's Farm Forum. W. Lafayette, IN. Contact: (202) 447-4623.

(See Agriculture Datebook, page 18, col. 1)

Animal Welfare

Videotape Available on NAL's Animal Welfare Information Center

Information on how to use the services of NAL's Animal Welfare Information Center (AWIC) is available in a 12-minute videotape recently produced by the Library.

The videotape, "Resources Today for the Research of Tomorrow," gives an overview of the center and the reference materials it has available.

The Center was established as a resource for materials on the care, use, and handling of warm-blooded animals in research, testing, and education.

"The video is useful to individuals who use or supervise the use of experimental animals, or those who are concerned about the care and use of such animals," said Jean Larson, coordinator of the center. "It describes the ways the center can assist these people in finding information on the various aspects of animal welfare."

A copy of the videotape may be obtained by sending a self-addressed label with the request to:

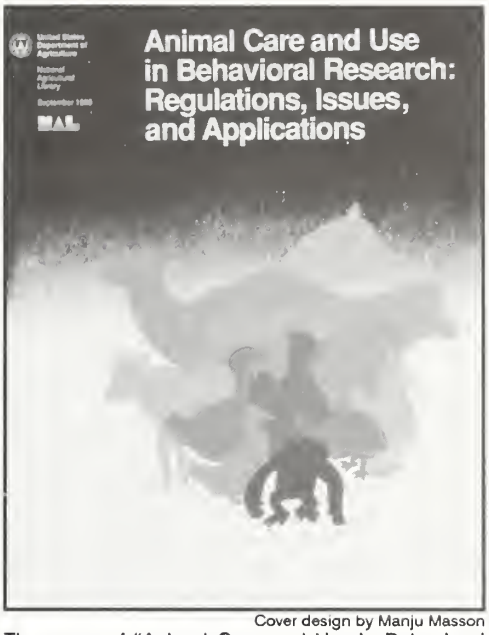
Animal Welfare Information Center
National Agricultural Library, Room 301
10301 Baltimore Boulevard
Beltsville, Maryland 20705.

Requestors may also borrow the tape from AWIC and make duplicates in any quantity. The telephone numbers of the center are (301) 344-3212 and 344-3704.

—Karen Clingerman

NAL Publishes Proceedings of Conference on Animal Care and Use

A cooperative effort between NAL's Animal Welfare Information Center (AWIC) and the Animal Behavior Society (ABS) has resulted in the production of a new publication entitled *Animal Care and Use in Behavioral Research: Regulations, Issues, and Applications*. It includes papers presented at the 1988 ABS meeting which address problems encountered by researchers in the wake of recent legislation and regulations on animal care and use. University of Colorado Professor Janis Wiley Driscoll organized the invited paper session and served as editor for the monograph.



Cover design by Manju Masson

The cover of "Animal Care and Use in Behavioral Research...," published by NAL in cooperation with the Animal Behavior Society.

The volume is divided into three parts: 1) current regulations in the U.S. and Canada; 2) general issues resulting from the regulations; 3) new methods for improving conditions for captive animals. Presentations by both university and government representatives are recorded in the publication and address such topics as institutional animal care and use committees, ethical issues, impact of Federal regulations at small institutions, and on field research, psychological well-being, and environmental enrichment.

Single copies of the publication are available while supplies last and may be obtained by sending a request with a self-addressed mailing label to:

Animal Welfare Information Center
National Agricultural Library, Room 301
10301 Baltimore Boulevard
Beltsville, MD 20705

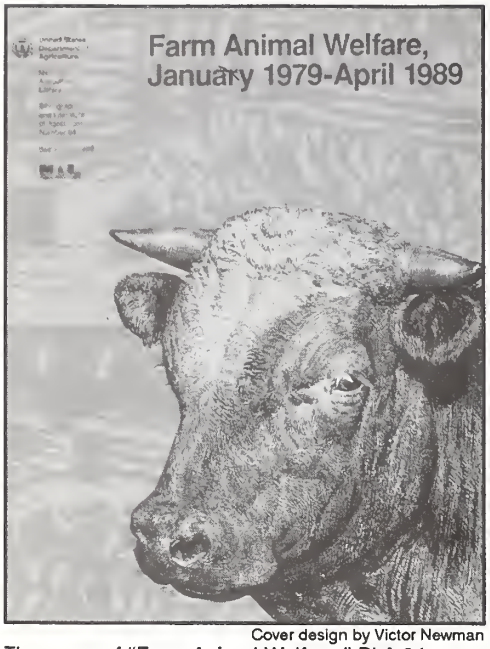
—Kevin Engler

NAL Publishes Two Animal Welfare BLA's

NAL'S Animal Welfare Information Center (AWIC) recently published two animal welfare bibliographies in the U.S. Department of Agriculture series, *Bibliographies and Literature of Agriculture (BLA):*

- *BLA Number 91*, entitled "Laboratory Animal Welfare, 1979-April 1989," by Charles N. Bebee contains 817 citations.
- *BLA Number 84*, entitled "Farm Animal Welfare, January 1979-April 1989," by Charles N. Bebee and Janice Swanson, contains 2745 citations.

The BLA's provide a comprehensive listing of farm and laboratory animal welfare holdings within NAL. The 30 to



Cover design by Victor Newman

The cover of "Farm Animal Welfare," BLA-84.

Cover design by Victor Newman

The cover of "Laboratory Animal Welfare," BLA-91.

60 subject divisions in each include animal genetics, animal physiology, diseases of animals, and veterinary science.

Requests for a copy of either or both of these publications may be submitted with a self-addressed mailing label to:

Animal Welfare Information Center
National Agricultural Library, Room 301
10301 Baltimore Boulevard
Beltsville, Maryland 20705.

—Karen Clingerman

Food & Nutrition

NAL Publishes Nutrition Education and Training Bibliography Update

In September 1989 NAL's Food and Nutrition Information Center (FNIC) published "Promoting Nutrition Through Education: A Resource Guide to the Nutrition Education and Training (NET) Program, Supplement 1." It is number 89 in the U.S. Department of Agriculture series *Bibliographies and Literature of Agriculture (BLA)*. Designed for educators and health professionals, it is a supplement to the NET bibliography (BLA-31) published in 1984, which has been very popular with professionals in the nutrition field. It contains additional items developed with NET Program funds throughout the United States and its territories under Public Law 95-166 which established the NET Program as a component of the National School Lunch Program.

These additional items include materials developed by agencies participating in USDA's NET Program, current research articles and evaluation reports about NET programs, and updated bibliographic information for citations contained in the 1984 resource guide.

The bibliography contains three major sections. Part I, "Materials Developed under NET," contains descriptive information on materials funded under this program. Each citation contains an abstract, format description, place of publication, source, and call number for NAL's Food and Nutrition Information Center, the national resource for NET materials. The materials are grouped in nine chapters for professionals working in various service areas: preschool, elementary grades, secondary grades, special education, food service training, teacher education, parent education, and others. While some of the materials may be specific to certain geographic areas or school systems, their format, content, or approach may be useful to those who are seeking similar resources.

Part II, "Literature Citations concerning NET," contains citations about the Program. The first section, entitled "NET Planning, Evaluation, and Program Support," lists articles that provide planning suggestions and evaluation techniques, and evaluations of NET programs and projects. In the second section, "NET Program Descriptions," State and local programs are described along with their goals and accomplishments. The third section,"Application and Access to Resources," contains listings of nutrition education materials (some NET) which are available from a variety of sources.

Part III, "Updates and Late Arrivals," describes any changes that have been made in the source, price, or availability of items in the 1984 bibliography. It also includes a listing of those materials received after the publication deadline. At the end of the bibliography are the name and address of each State's NET Coordinator, and several indexes to facilitate the identification of appropriate resources.

Items listed in the bibliography are available for loan from FNIC. To obtain information on borrowing materials listed, write to the address below, or call (301) 344-3719.

Single complimentary copies of the bibliography may be obtained by sending a self-addressed label with the request

The cover of the updated NET Bibliography, "Promoting Nutrition Through Education," BLA-89.

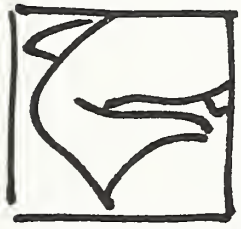
Cover design by Victor Newman

The cover of "The Potentials of Aquaculture: An Overview and Bibliography," BLA-90.

to:

Food and Nutrition Information Center
National Agricultural Library
10301 Baltimore Boulevard, Room 304
Beltsville, MD 20705

—Natalie Updegrove



Aquaculture

NAL Publishes Aquaculture Bibliography

NAL's Aquaculture Information Center in cooperation with the National Environmental Satellite, Data and Information Service (NESDIS) of the National Oceanic and Atmospheric Administration (NOAA) has published the latest in a series of aquaculture bibliographies, titled "The Potentials of Aquaculture: An Overview and Bibliography." Those interested in the growth, changes, and anticipated developments in the aquaculture industry will find useful information and literature citations in this publication, which is Number 90 in the U.S. Department of Agriculture series, *Bibliographies and Literature of Agriculture*. The 73-page bibliography contains selected citations from world literature on the aquaculture industry and would be of interest to farmers engaged in aquaculture, businesses providing support for the industry, agribusinesses, scientists in the field of aquaculture research, and those interested in the expansion of world fish and shellfish production for food, feed, pharmaceutical, chemical, and other uses.

The bibliography includes literature on feasibility studies, production potential of species, site selection, statistics, and the introduction of new aquaculture techniques for particular regions. Citations date from 1976 to the present and include selected books, articles, reports, and news items identified in the online bibliographic databases, ASFA (Aquatic Sciences and Fisheries Abstracts) and AGRICOLA (AGRICultural OnLine Access). The bibliography also includes a few publications not found in either of these databases. Author and subject indexes provide access to the entries. In addition, the publication contains a brief, narrative overview on the past, present, and future of the industry.

Single copies of the bibliography may be obtained by sending a request with a self-addressed label to:

Aquaculture Information Center
National Agricultural Library
Room 304; ATTN: POTENTIALS
10301 Baltimore Boulevard
Beltsville, MD 20705

—Eileen M. McVey

USAIN Meets at ALA Midwinter, Chicago

The next meeting of the United States Agricultural Information Network (USAIN) will take place at the American Library Association Midwinter Meeting in Chicago on Tuesday, January 9, 1990, from 2:00 to 4:00 p.m. in the Crystal Room of the Palmer House Hotel.

Horticulture

CBHL Study Tour

Jayne MacLean participated in a study tour in the United Kingdom, organized by the Council on Botanical and Horticultural Libraries (CBHL), from October 1-17. The tour group visited nine botanical gardens and their libraries, five other libraries, and two publishers. Directors and librarians of the host institutions are international members of CBHL. They cooperated most graciously in the arrangements, providing behind-the-scenes tours, discussion sessions, luncheons and printed materials. Twelve American, Canadian, and South African CBHL members and three spouses made up the tour group; all presented host institutions with handouts from their own institutions. The visits thus were educational for both hosts and guests, extending goodwill and cooperative networks across the ocean.

Librarians at the Royal Botanical Gardens, Kew, were the first hosts of the tour, followed by Oxford University Libraries and Botanical Garden, Royal Horticultural Society and its famous teaching garden at Wisley, The British Museum (Natural History) Library, The Linnaean Society, the Royal Botanical Garden, Edinburgh, and the National Library of Scotland, and others. The fully-packed tour provided everything from views of the latest horticultural practices to examinations of the earliest and rarest illustrated botanical works still extant.

—Jayne MacLean

Family

Visiting Scholar Frazier Completes Research for NAL's Family Info Center

Dr. Billie H. Frazier, a Human Development Specialist for the Cooperative Extension Service, University of Maryland, has just spent much of a 6-month sabbatical doing research and developing publications as a volunteer for NAL's Family Information Center. In this research practicum she developed eight *Pathfinders* on aging. She also co-authored another two *Pathfinders* on Alzheimer's disease and dementia with Glenn Kirkland, nationally-recognized authority on Alzheimer's disease. The research and the development of the *Pathfinders* represent a significant contribution to the field of gerontology. The publications are scheduled for release in January.

photo: J. Swab

Dr. Billie H. Frazier

Pathfinders are brief bibliographies of peer-reviewed literature. Each of Dr. Frazier's publications identifies and abstracts literature for researchers, educators, and consumers, and provides additional sources of information.

During her sabbatical, Dr. Frazier also took five computer classes and applied her knowledge to these bibliographic citations and the abstracts. She initially planned to develop four *Pathfinders*, but as she worked with the literature on gerontology, her enthusiasm for the developing bibliographies grew with her expertise in using the computer. The number of *Pathfinders* expanded from 4 to 10, and this represents a contribution to NAL of more than 800 hours of volunteer service with a value of more than $26,000.

Dr. Frazier is currently developing two more *Pathfinders* in conjunction with NAL's Family Information Center. Kate Hayes and Sandy Facinoli, NAL Technical Information Specialists, also assisted with the development of the publications. The Family Information Center intends to publish the entire set of *Pathfinders* as one *Special Reference Brief* as soon as all are completed.

Since 1971 Dr. Frazier has been in her present position at the University of Maryland. She has had a strong interest in gerontology and is a graduate of the certification program at the University of Missouri Institute of Gerontology. She has also worked with the Extension Committee on Planning (ECOP) and served as the chairlady of the first national committee for the (ECOP)-sponsored workshop on aging in Dallas in 1976.

Dr. Frazier earned her bachelors degree at Sam Houston State University in Texas, her masters in family science at Texas Woman's University and her doctorate at Florida State University. Prior to her arrival at Maryland, Dr. Frazier held positions in academic departments at the College of William and Mary, Auburn University, University of Houston, and Sam Houston University.

Dr. Frazier is the mother of two children, and her interests include gardening and genealogy. A sixth-generation Texan, she recently discovered that her family came from Europe with William Penn on the "Welcome" in the 17th century.

—Kate Hayes & Sandy Facinoli

photo: J. Swab

Glenn I. Kirkland, retired Johns Hopkins physicist (left), is the founding president of the Alzheimer's Disease and Related Disorders Association, Baltimore Chapter. Here he reviews bibliographic data for the Family Information Center's "Pathfinders" on Alzheimer's Disease with Dr. Billie Frazier.

photo: J. Swab

Brian W. Norris

Staff Update

NAL Appoints Norris Public Affairs Officer

NAL has chosen Brian W. Norris to fill a need for expertise in the area of Public Affairs. Mr. Norris joined the NAL staff on November 20, and assumed the responsibility for planning, designing, and executing a comprehensive program to inform users worldwide about NAL's services and products. This includes promotion of the national and international role and use of NAL, developing outreach programs and products, providing information for cooperative activities with state and Federal agencies and institutions, maintaining working relationships with general and agricultural media, providing information for use in newspapers, television, and other media, representing the Library in various organizations and associations, and development of graphic products for publication and presentation as official position papers, policies, or technical reports.

In announcing the appointment, Joseph H. Howard, NAL Director, said, "Brian is a welcome addition to the Library's staff. His experience will help us tremendously as the National Agricultural Library continues its efforts to assist the international community in meeting the challenges facing world agriculture in the decade to come."

Immediately prior to coming to NAL, Mr. Norris had been with USDA's Foreign Agricultural Service, Washington, DC, since March 1987. There he was responsible for radio and video news releases, writing stories, speeches, and other items for publication, and developing public relations strategies to encourage U.S. agribusiness and food companies to export.

From 1977 to 1987 Mr. Norris held a variety of communications and public affairs positions at the Maryland State Bar Association, Baltimore; Martin Marietta Baltimore Aerospace; Federal Emergency Management Agency, Loudoun County, VA; Nuclear Regulatory Commission, King of Prussia, PA; U.S. Coast Guard, Washington, DC; and ACTION, Rochester, NY. While serving as a Lieutenant in the U.S. Coast Guard, 1973-76, Mr. Norris was an assistant manager of media relations. He is a 1972 graduate of the University of Maryland where he earned a B.S. in Journalism/English.

Mr. Norris resides in Baltimore with his wife, Linda, and sons, Colin, 9, and Owen, 7. His hobbies include skiing, sailing, jogging, canoeing, tennis, and team sports.

—Joseph N. Swab

Kemp Joins NAL Public Services

Dr. Janice C. Kemp joined the Library staff on October 8 as a Technical Information Specialist in the Biological Sciences. Initially she is working with the Reference Branch providing services at the Reference Desk and via mail and telephone. She is also working with other members of the NAL staff in support of the information needs of the Plant Genome Research Program, in the Biotechnology Information Center, and will be the coordinator of the new Water Quality Information Center, which will soon be activated.

Ms. Kemp earned her Ph.D. in zoology at Miami University in Ohio, where she did research for her dissertation in agricultural ecology and enhancement of biological control

in soybeans (working with 72,000 insects from 12 one-acre plots); the dissertation was published in "Ecology," February 1989. She earned her M.S. in Library and Information Science at the University of Illinois. Before coming to NAL she taught biology at Central College, Pella, Iowa, and taught biology, chemistry, and physics at several other colleges and high schools.

photo: J. Swab

Dr. Janice C. Kemp

Both Ms. Kemp and her husband, John Carlock, are nature photographers, and give professional slide lectures from their collection of 40,000 slides on botanical, zoological, geological, and other subjects. They specialize in giving environmental awareness programs, "Life in Concert," to professional organizations, various service groups, and also to garden clubs, nursing homes, parks, and others. To do their photography, they have travelled and camped all over the U.S. Together they have also developed a simulation game in photosynthesis which was published for use in high school and college biology classes. Mr. Carlock is a Biologist and Professor Emeritus at Illinois State University.

When asked why she had chosen to take a position at NAL, Ms. Kemp responded, "It is critical to improve the communication between agricultural scientists and environmental scientists doing ag-related research. NAL has very exciting prospects for doing that, which I would like to further."

—Joseph N. Swab

(Agriculture Datebook, from page 12)

January 13: 19th Annual Midwest Meat Processors Seminar. Manhattan, KS; Kansas State University. Contact: Dave Schafer, (913) 532-6131.

January 13: Ozark Regional Herb Growers and Marketers Association Conference. Springfield, MO; Southwest Missouri State University Campus. Contact: Leanna Potts, (417) 781-5608.

January 13-16: Peanut Butter & Nut Processors Association Annual Convention. Phoenix, AZ. Contact: PBNPA, (301) 365-4080.

January 14-16: U.S. Wheat Associates Convention. San Antonio, TX. Contact: USWA, (202) 463-0999.

January 14-17: American Sheep Industry Convention. Phoenix, AZ. Hyatt Regency. Contact: ASIA, (303) 771-3500.

January 16: CF Industries 1990 Mid-Winter Conference. Scottsdale, AZ. Contact: (202) 653-6976.

January 16-18: Revitalizing the Rural South: Extension's Role in Enhancing Quality of Life Meeting. Contact: Doss Brodnax, Mississippi State University, (601) 325-3207.

January 16-18: Sixth International Symposium on Separation Science and Biotechnology. Fort Lauderdale, FL; Bahia Mar. Contact: Janet Cunningham, (301) 898-3772.

January 17-19: Fifth Annual MIT Symposium: Biotechnology Process Engineering. Cambridge, MA. Contact: (617) 253-0805.

January 18-20: Pacific Coast and National Bargaining Conference. San Diego, CA. Contact: (202) 653-6976.

January 20: Southern Cotton Growers & Southeastern Cotton Ginners Annual Meeting. Winston-Salem, NC. Contact: (202) 447-7907.

January 21-24: National Grocers Association Convention. San Antonio, TX. Contact: NGA, (703) 437-5300.

January 21-26: American Meat Institute's Meat Industry Executive Development Program. Evanston, IL; Northwestern University. Contact: Annette Suriana, AMI, (703) 841-2400.

January 21-26: National Council of Farmer Cooperatives Convention. San Diego, CA. Contact: NCFC, (202) 626-8700.

January 22: American Chemical Society Meeting. Point Clear, AL. Contact: (202) 447-5923.

January 22: Farm Credit Council Annual Convention. San Diego, CA. Contact: (202) 447-4581.

January 22-23: 3rd Annual Southern California Food Industry Conference. Orange, CA; Chapman College. Contact: Walt Clark, (714) 997-6869.

January 22-28: Manipulating the Mammalian Genome Symposium. Tamarron, CO. Contact: UCLA Symposia, (213) 207-5042.

January 24: American Chemical Society Special Conference: IV. Pesticide Residues and Food Safety. Point Clear, AL. Contact: (202) 447-7025.

January 24-26: Joint Council Meeting. Virginia; Airlie House. Contact: (202) 447-3656.

January 25: USDA Human Nutrition Board of Scientific Counselors Meeting. Washington, DC. Contact: (202) 447-5923.

January 25: EPA Workshop. Washington, DC; Smithsonian Institution. Contact: (202) 475-3781.

January 26: Rural Development Conference. Waseca, MN; University of Minnesota. Contact: (202) 447-4581.

January 26: Southern Agribusiness Forum. Memphis, TN. Contact: (202) 447-3111.

January 29-31: National Cattlemen's Association Convention. Nashville, TN; Opryland Hotel. Contact: Kendal Frazier, (303) 694-0305.

January 31-February 2: Food Processors' Sanitation Workshop. Santa Nella, CA; Holiday Inn. Contact: Joan Byers, (916) 752-1478.

January 31-February 2: International Poultry Trade Show. Atlanta, GA; Georgia World Congress Center. Contact: Southeastern Poultry & Egg Association, 1456 Church Street, Decatur, GA 30030. (404) 378-9801.

(See Agriculture Datebook, p. 22, col. 2)

photo: D. Starr

Laura Nauta
Special Emphasis Program Manager, Minorities

photo: D. Starr

Tanya Tanner
Special Emphasis Program Manager, Blacks

photo: D. Starr

Janet Wright
Special Emphasis Program Manager, Women

EEO at NAL

Two recent NAL activities in the area of Equal Employment Opportunity were the recognition of NAL's Special Emphasis Program Managers at the Library's Awards Ceremony in December. The four persons honored, Ms. Nauta, Ms. Tanner, Ms. Wright, and Mr. Yeldell, are pictured on this page.

In addition NAL hosted a day of meetings with representatives of the USDA Office of Advocacy and Enterprise (OAE), which has responsibility for the Department's EEO programs. They included Amy Daniels, Program Analyst; Connie Alston, Secretary; Barbara Gary, Equal Employment Manager; Vernice Jackson, Equal Opportunity Specialist; Veda Patterson, Program Analyst; Rita Metro, Equal Opportunity Specialist; & Darrell Brown, Equal Opportunity Assistant.

photo: J. Swab

USDA Office of Advocacy and Enterprise Staff receive demonstrations of NAL new technology applications from Ellen Nollman, Cataloger, NAL. (L-R) Mr. Brown, Ms. Metro, Ms. Jackson, Ms. Daniels, Ms. Gary, Ms. Patterson, Ms. Alston, and Ms. Nollman.

photo: J. Swab

NAL EEO and USDA OAE Staff (L-R): Ms. Wright, Ms. Daniels, Ms. Alston, Ms. Gary, Ms. Jackson, Ms. Nauta, Ms. Patterson, Ms. Metro, Ms. Tanner, Mr. Brown, and Mr. Thomas Neis, NAL EEO Officer.

photo: D. Starr

Don Yeldell
Former Special Emphasis Program Manager, Blacks and Other Minorities

New Bibliographies

The bibliographies in the *Quick Bibliography* series are primarily computerized online as batch bibliographies emanating from searches performed by the NAL Public Services Division Staff in response to customer requests. Searches are selected for inclusion based on the currency of the topic, interest among clientele, and probable value to a larger audience. Since October 1988, all *QB's* include search strategies. Unless otherwise specified, citations are from AGRICOLA.

The other bibliographic series, including *Special Reference Briefs,* have been researched and produced to meet special needs of clientele of the Library and its Information Centers. Revisions or updates will be announced when produced. Only one copy of a requested title will be sent; however, requesters may make copies. To request a copy of a *Quick Bibliography, Special Reference Brief,* or other bibliographic work, circle the desired title(s) below and send your request with a self-addressed label to:

Reference Branch, Room 111
National Agricultural Library
Beltsville, MD 20705

Quick Bibliographies

Q.B.—90-01. Farming Systems Research, January 1979-May 1989. 172 citations; languages: none excluded. Prepared by Jayne T. MacLean. October 1989. Updates 88-39.

Q.B.—90-02. Legumes in Crop Rotations, January 1984-May 1989. 260 citations; English only. Prepared by Jayne T. MacLean. October 1989. Updates 88-45.

Q.B.—90-03. Rotational Grazing and Intensive Pasture Management, January 1979-June 1989. 217 citations; English only. Prepared by Jayne T. MacLean. October 1989. Updates 89-16.

Q.B.—90-04. Freshwater Shrimp and Prawns, January 1979-July 1989. 186 citations; languages: none excluded. Prepared by Deborah T. Hanfman. October 1989. Updates 87-18.

Q.B.—90-05. Mycorrhizae in Plant Production, January 1979-May 1989. 295 citations; languages: none excluded. Prepared by Karl Schneider. October 1989.

Q.B.—90-06. Hazardous and Toxic Waste Management, January 1979-May 1989. 227 citations; languages: none excluded. Prepared by Louise Reynnells. October 1989. Updates 88-44.

Q.B.—90-07. Shellfish Culture, January 1985-August 1989. 149 citations; languages: none excluded. Prepared by Eileen M. McVey. December 1989. Updates 87-46.

Q.B.—90-08. Training Materials for Animal Facility Personnel, January 1979-August 1989. 191 citations; languages: none excluded. Prepared by Karen Clingerman. December 1989.

Q.B.—90-09. Animal Models of Disease, January 1979-August 1989. 189 citations; languages: none excluded. Prepared by Janice Swanson and Karen Clingerman. December 1989. Updates 89-07.

Q.B.—90-10. Welfare of Experimental Animals, January 1979-August 1989. 394 citations; languages: none excluded. Prepared by Jean Larson and Karen Clingerman. December 1989. Updates 89-18.

Q.B.—90-11. Trout Culture, January 1979-August 1989. 122 citations; languages: none excluded. Prepared by Ann Townsend Young. December 1989. Updates 87-19.

Q.B.—90-12. Trout and Salmon: Diseases and Control, January 1979-August 1989. 311 citations; languages: none excluded. Prepared by Ann Townsend Young. December 1989. Updates 87-49.

Special Reference Briefs

S.R.B.—90-01. The Republic of Turkey. Prepared by Mary Lassanyi. Agricultural Trade and Marketing Information Center. October 1989.

S.R.B.—90-02. Catalog of Agricultural, Scientific, and Research-Related Microcomputer Software at the National Agricultural Library. Prepared by Bob Anderson and Lee Decker. Educational Programs Unit, Special Services Branch. October 1989.

S.R.B.—90-03. Worksite Health Promotion. Prepared by Jan M. Ostby. Food and Nutrition Information Center. November 1989.

Miscellaneous

Horticultural Journals Currently Received at the National Agricultural Library. Prepared by Jane Potter Gates. Horticulture Information Center. Slightly revised September 1989.

A Professional Research and Knowledge Taxonomy for Youth Development: Communication. Prepared by Sandra L. Facinoli. Youth Development Information Center. 26 citations; English only. Revised September 1989.

A Professional Research and Knowledge Taxonomy for Youth Development: Educational Design. Prepared by Sandra L. Facinoli. Youth Development Information Cen-

ter. 112 citations; English only. Revised September 1989.

A Professional Research and Knowledge Taxonomy for Youth Development: Volunteerism. Prepared by Sandra L. Facinoli. Youth Development Information Center. 56 citations; English only. Revised September 1989.

A Professional Research and Knowledge Taxonomy for Youth Development: Youth Development. Prepared by Sandra L. Facinoli. Youth Development Information Center. 255 citations; English only. Revised September 1989.

A Professional Research and Knowledge Taxonomy for Youth Development: Youth Program Management. Prepared by Sandra L. Facinoli. Youth Development Information Center. 62 citations; English only. Revised September 1989.

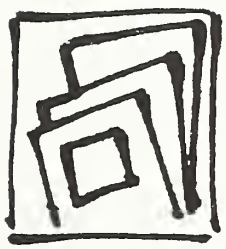
Seafood Safety and Standards. Prepared by Eileen M. McVey. Aquaculture Information Center. September 1989.

Agri-Topics

Organic Gardening. Prepared by Jane Potter Gates. Alternative Farming Systems Information Center. September 1989.

Winemaking at Home. Prepared by Wayne K. Olson. Reference Branch. October 1989.

Dried Flowers. Prepared by Carol Kopolow. Reference Branch. November 1989.



New Serials Received at NAL

APMIS. Acta Pathologica, Microbiologica, et Immunologica Scandinavica. Supplementum. Copenhagen: Munksgaard. Irregular. No. 1- [c1988-]
QR1.A7

Adolescent Mental Health Abstracts. St. Louis, MO: Center for Adolescent Mental Health, Washington University. Quarterly. Vol. 1, no. 1 (Summer 1983)-
RJ503.A36

Advances in Medical & Veterinary Virology, Immunology and Epidemiology. New Delhi: Thajema. Vol. 1-
SF780.4.A3

Agroforestry Abstracts. Wallingford, Oxon, UK: Published by C.A.B. International in Association with the International Council for Research in Agroforestry. Quarterly. Vol. 1, no. 1 (June 1988)-
S494.5.A45A4

American Wine & Food. [San Francisco, CA]: American Institute of Wine & Food. Monthly (except Feb. and Aug.) Vol. 1, no. 1 (Feb. 1987)-
TX631.A5

Association Meetings. [Stamford, CT]: Bayard Publications. Bimonthly. Vol. 1, no. 1 (Apr. 1989)-
AaS6.A7

BMJ: British Medical Journal / British Medical Association. London: The Association. Weekly. Vol. 97, no. 6640 (2 July 1988)-
R31.B55

Baiosaiensu to indasutori = Bioscience & Industry. Tokyo: Baioindasutori Kyokai. Monthly. Vol. 46, no. 4 (4 1988)-
TP248.13.B53

Bios. [Madison, NJ: Beta Beta Beta National Biological Society]. Quarterly. Vol. 1-
QH301.B562

Caring for Animals. [Ottawa]: Experimental Animals Committee, Canadian Federation of Humane Societies. Vol. 1, no. 1 (spring 1984)-
QL55.C3

Cell Differentiation and Development: the official journal of the International Society of Developmental Biologists. Shannon: Elsevier Scientific Publishers Ireland. Monthly. Vol. 5, no. 1 (Sept. 1988)-
QH607.A1C4

Charles River Technical Bulletin. Wilmington, MA: Charles River Breeding Laboratories. Vol. 1, no. 1- [c1982-]
QL55.C53

Crustaceana. Supplement. Leiden: E.J. Brill. Irregular. 1- [c1960-]
QL435.A1C7

Current Research. Burlington, Ont., Canada: National Water Research Institute, Inland Waters/Lands Directorate. Annual. 1986/87-
TD6.A1C8

Dairy, Food and Environmental Sanitation: publication of the International Association of Milk, Food and Environmental Sanitarians. [Ames, Iowa]: The Association. Monthly. Vol. 9, no. 1 (Jan. 1989)-
SF221.D342

Diesel Progress Engines & Drives. [Brookfield, WI]: Diesel & Gas Turbine Publications. Monthly. Vol. 54, no. 9 (Sept. 1988)-
TJ795.A1D5

Excellence in Ecology. Oldendorf/Luhe, Federal Republic of Germany: Ecology Institute. Annual. 1- [c1987-]
QH540.E9

FAO Forestry Paper. Rome: Food and Agriculture Organization of the United Nations. 1- [c1977-]
SD1.F36

Family Affairs. New York, NY: Institute for American Values. Quarterly. Vol. 1, no. 1 (Winter 1988)-
HQ536.F352

Fiber Organon. Roseland, NJ: Fiber Economics Bureau. Monthly. Vol. 60, no. 4 (April 1989)-
HD9929.2.U6F5

Issue Paper / Sveriges lantbruksuniversitet. Uppsala: Swedish University of Agricultural Sciences, International Rural Development Centre, RD Analysis Section. Irregular. No. 1- [c1987-]
HD1431.I87

Journal of Genetics & Breeding. Roma: Istituto sperimentale per la cerealicoltura. Vol. 43, no. 1 (Jan. 1989)-
SB123.J68

Journal of High Resolution Chromatography: HRC. Heidelberg; New York: A. Huethig. Monthly. [Vol. 12, no. 1 (Jan. 1989)]-
QD79.C4H5

Journal of Research of the National Institute of Standards and Technology. [Gaithersburg, MD]: U.S. Dept. of Commerce, National Institute of Standards and Technology; [Washington]: U.S. G.P.O., distributor. Bimonthly. Vol. 93, no. 6 (Nov.-Dec. 1988)-
Q181.A1J6

Journal of Zoo and Wildlife Medicine: official publication of the American Association of Zoo Veterinarians. Lawrence, KS: The Association. Quarterly. Vol. 20, no. 1 (Mar. 1989)-
SF601.J6

Miscellaneous Bulletin / Division of Agricultural Services. [Sydney?]: Dept. of Agriculture, New South Wales. Irregular. 1- [c1988?-]
S383.M5

Molecular Plant-Microbe Interactions: MPMI. St. Paul, MN: APS Press. Monthly. Vol. 1, no. 1 (Jan. 1988)-
SB732.6.M65

The Nature of Illinois. [Springfield, IL]: Society for the Illinois Scientific Surveys. Quarterly. Vol. 1, no. 1 (Summer 1986)-
QH76.5.I3N3

Noncitrus Fruits and Nuts. Summary. Washington, DC: U.S. Dept. of Agriculture, Statistical Reporting Service, Crop Reporting Board. Annual. 1983-
aHD9244.A1U5

Rapport / Instituut voor Bodemvruchtbaarheid. Groningen [The Netherlands]: Het Instituut. Irregular. 1961, 1-
56.9 G892

Rapport / Sveriges lantbruksuniversitet, Veterinärmedicinska fakulteten, Institutionen för husdjurshygien = Report / Swedish University of Agricultural Sciences, Faculty of Veterinary Medicine, Department of Animal Hygiene. Skara: Institutionen. Irregular. 13- [c1985-]
SF757.R36

Recent Advances in Obesity Research. London: Newman Pub. Ltd. Irregular. 1- [c1975-]
RC628.I48

The Review of Income and Wealth. [New Haven, CT]: International Association for Research in Income and Wealth [etc.]. Quarterly. Ser. 12, no. 1 (Mar. 1966)-
HC110.I5R4

The Rocky Mountain Region Annual Report. Denver, CO: The Region. Annual. 1987-
aSD144.A14R6

Technical Series / Office international des épizooties. Paris, France: L'Office. Irregular. No. 1- [c1981-]
SF780.9.T4

Telegen Abstracts. [New York, NY]: Bowker A&I Pub. Monthly. Vol. 7, no. 1 (Jan. 1989)-
QH442.T43

The Vet Gazette. Baltimore MD: Maryland Medical Laboratory, Inc. Vol. 1, no. 1 (May 1988)-
SF601.V475

Water Resources Development in Connecticut / by the U.S. Army Corps of Engineers. Waltham, MA: U.S. Army Engineer Division, New England. Biennial. 1961-
TC424.C8W3

Working Papers in Agricultural Economics. Ithaca, NY: Dept. of Agricultural Economics, New York State College of Agriculture and Life Sciences, Cornell University. Irregular. 88-1-
HD1751.W67

(Agriculture Datebook, from p. 18)

January 31-February 4: International Food Media Conference. Alexandria, VA; Radisson Mark Plaza. Contact: Bill Primavera, (914) 245-5390.

February 2: Educational Program for International Poultry Trade Show. Atlanta, GA. Contact: (202) 447-7025.

February 2-6: American Sugarbeet Growers Association Convention. Washington, DC. Contact: (202) 833-2398.

February 2-6: National Dry Bean Council Inc. Convention. San Francisco, CA. Contact: (208) 829-5411.

February 2-6: National Food Processors Association Exposition About Science & Technology. San Francisco, CA; Hilton Hotel. Contact: Lee Swider or Mary Cox, (202) 639-5900.

Publications Exchange

Surplus Publications

The National Agricultural Library will make available the following surplus publications to any interested organization that regularly sends free publications to NAL, including most Federal, land-grant, and agricultural research institutions as well as many others. Foreign institutions will need to provide a U.S. mailing address or make other special arrangements with U.S. sources for shipment of material. Listed titles may be requested up to six months following announcement.

If interested, please enclose an addressed label with your request and write to:

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Attn: Gift and Exchange/RF, Room 002
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Beltsville, MD 20705

Or call Ruth Finnblade, (301) 344-1207.

Advances in Morphogenesis. Vol. 1-6, 1961-67.

American Association of Veterinary Laboratory Diagnosticians. 17th-28th, 1974-85.

American Forests. 1973-87.

American Fruit Growers. 1941-55.

American Journal of Agricultural Economics. Vol. 53-61, 1971-79.

Annual Review of Genetics. 1968-69, 1972.

Annual Review of Phytopathology. 1963-69.

Antimicrobial Agents and Chemotherapy. Vol. 1-24, 1972-83.

Bell Journal of Economics and Management Science. 1970-74.

Brookings Papers on Economic Activity. 1970-72.

Canadian Journal of Microbiology. Vol. 25-26, 1979-80.

Food Technology. Vol. 37-38, 1983-84.

Journal of American Society for Horticultural Science. Vol. 103-107, 1978-82.

Journal of Applied Bacteriology. Vol. 36-42, 1973-77.

Journal of Clinical Microbiology. Vol. 1-2, 1975.

Journal of Forestry. Vol. 60-85, 1962-87.

Journal of Medical Microbiology. Vol. 6-10, 1973-77.

Journal of Organic Chemistry. Vol. 31, 1986.

Journal of Range Management. Vol. 25-40, 1972-87.

Journal of Wildlife Management. Vol. 40-43, 1976-79.

Landscape Architecture. Vol. 65-77, 1975-87.

Occupational Safety and Health Decisions. 1971-84.

Rangelands. Vol. 1-9, 1979-87.

Rangeman's Journal. Vol. 1-5, 1974-78.

Tappi Journal. Vol. 67, 2984.

Wildlife Monographs. 1976-79.

Wildlife Society Bulletin. Vol. 3-7, 1975-79.

Surplus Publications in Russian

Cytological and Cytochemical Peculiarities of Several Varieties of Melliferous Bees. Kazan, 1976.

Diptera (Insecta) of the Fauna of the USSR and Their Significance in Ecosystems. Leningrad, 1984.

Pests and Diseases of Ornamental Plants. Moskva, 1987.

The Physiological Basis of the Root Nutrition of Cotton. Tashkent, 1975.

Pollution of the Natural Environment with Calciferous Dust. Riga, 1985.

Resistance of Plants to Powdery Mildew at Their Introduction. Tallin, 1988.

Publications Exchange Listed in ALF

Items listed in the *ALIN* columns "Serial Gaps," "Surplus Publications," "Surplus Publications in Russian," and miscellaneous listings will now be updated on NAL's electronic bulletin board, ALF (Agricultural Library Forum), on a regular basis. It is the intention of the staff maintaining the listings to keep items in the ALF file as long as they remain available. New listings will appear in *ALIN*, and will be loaded into ALF upon publication.

ALF is accessible 24-hours a day, seven days a week, at (301) 344-8510 or (301) 344-8511. For information on how to access these listings, see the article on ALF in this issue of *ALIN*, pages 11-12.

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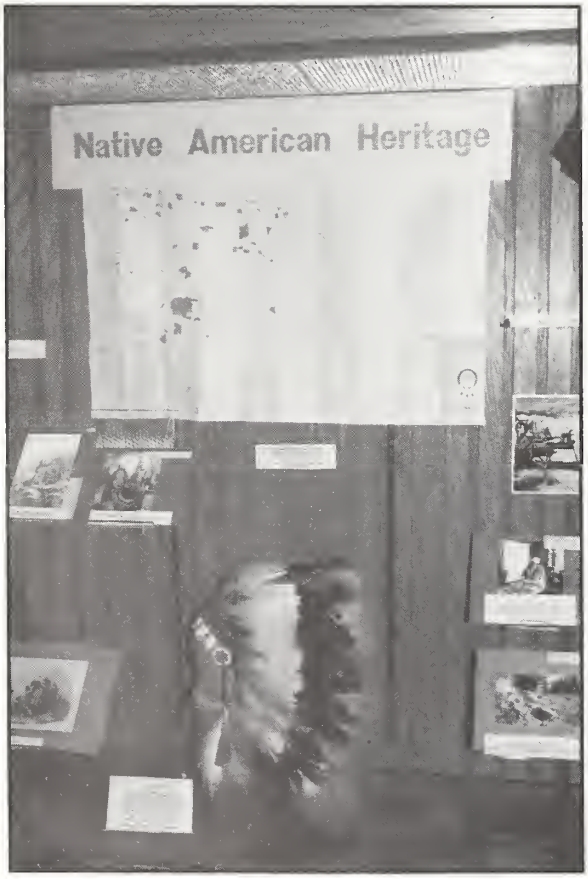
EEO at NAL



AGRICULTURAL LIBRARIES INFORMATION NOTES

(ISSN 0095-2699)

provides a channel of communication to technical information specialists, librarians, extension workers, researchers, and scientists on agricultural information activities.

Joseph N. Swab, Editor.
Idalia Acosta, New Serials Editor.
Ruth Finnblade, Publications Exchange Editor.
Daniel Starr, Photographer.
[(301)-344-3937]

(Left) A portion of NAL's exhibit on the Native American Heritage prepared by Special Emphasis Program Manager for Minorities, Laura Nauta. This exhibit is part of a series to inform NAL staff and visitors of the diverse backgrounds of Americans, and to stress EEO principles. The exhibit combines materials from the NAL collection with artifacts borrowed from other sources. For additional information about "EEO at NAL," see the photo article on page 19, and watch for articles in future issues of *ALIN*.

Photo: J. Swab